

# Human physiology analysis essay



**ASSIGN  
BUSTER**

The inside of the cell membrane is negative, not only due to the active transport system but also because of \_intracellular proteins\_, which remain negative due to intracellular pH and keep the inside of the cell membrane negative. 3. Why don't the terms depolarization and action potential mean the same thing? -Depolarization and action potential did not mean the same thing because are excitable cells that communicate by transmitting electrical impulses that are capable of producing rapid electrical signals and depolarization in the interior surface of the membrane which becomes less negative and the exterior surface becomes less positive.

When depolarization reaches a certain threshold, an action potential is initiated and the polarity of the membrane reverses. 4. What is the difference between membrane irritability and membrane conductivity? 5. Why does a nerve's action potential increase slightly when you add 1.0 V to the threshold voltage and stimulate the nerve? 6. If you were to spend a lot of time studying nerve physiology in the laboratory, what type of stimulus would you use, and why?

Why does the addition of sodium chloride elicit an action potential? 8. What was the effect of ether on eliciting an action potential? 9. Does the addition of ether to the nerve cause any permanent alteration in neural response? 10. What was the effect of curare on eliciting an action potential? 11. Explain the reason for your answer to Question 10. 12. What was the effect of lidocaine on eliciting an action potential? 13. What is the relationship between size of a nerve and conduction velocity? 4. Keeping your answer to Question 13 in mind, draw an analogy between the nerves in the human body and electrical wires. 15. Hypothesize what types of animals would have the fastest

conduction velocities. 16. How does myelination affect nerve conduction velocity? Explain. 17. In the nerve conduction velocity experiment, if any of the nerves used were reversed in their placement on the stimulating and recording electrodes, would there be any differences seen in conduction velocity? Explain.